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T7, line 3, cross section

4.00  $\mu\text{m}$   
X3000

d = 10.0 microns

3

1

FIG. 2

FOOT-5922300

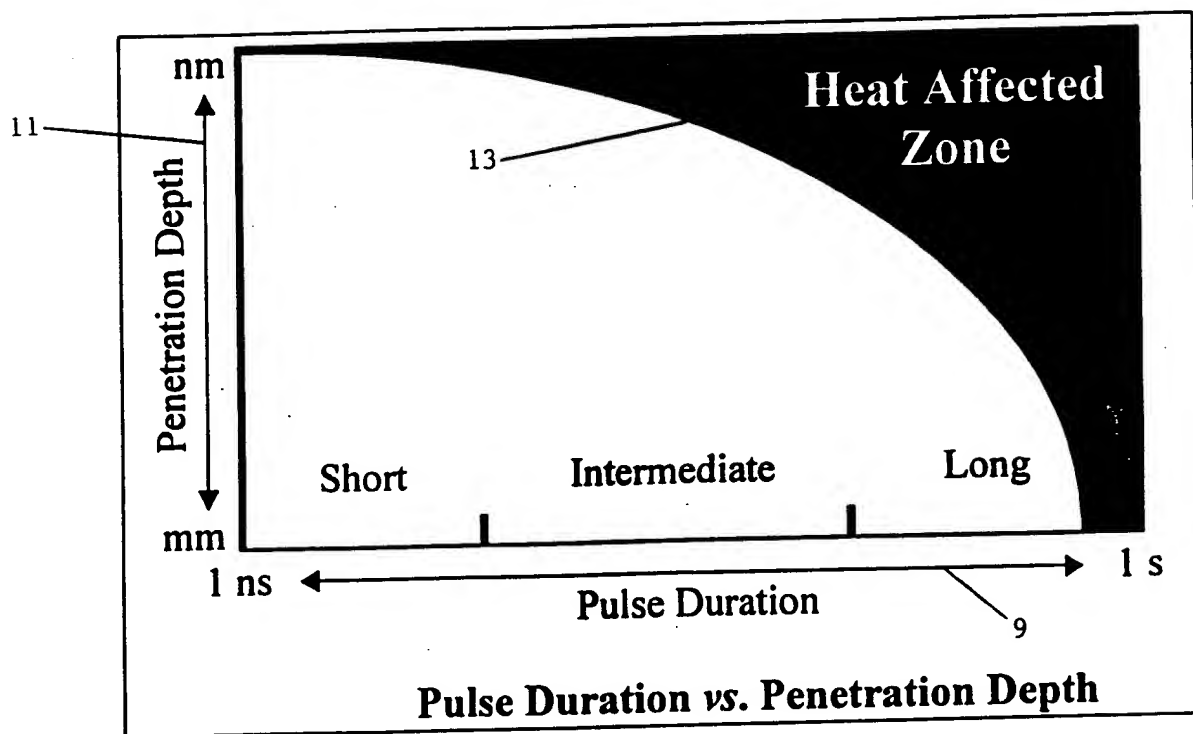


FIG. 3

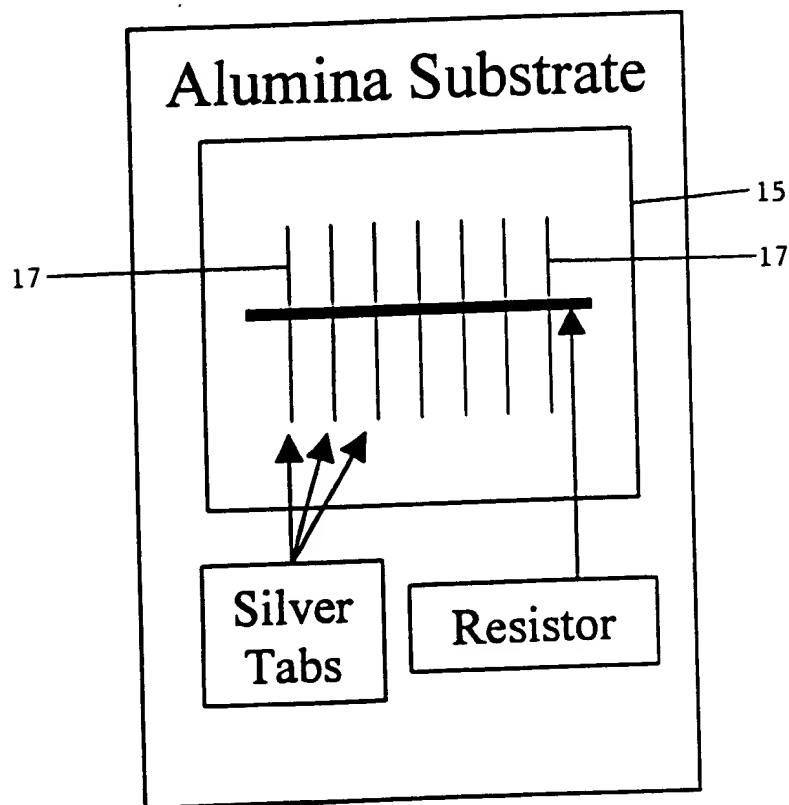
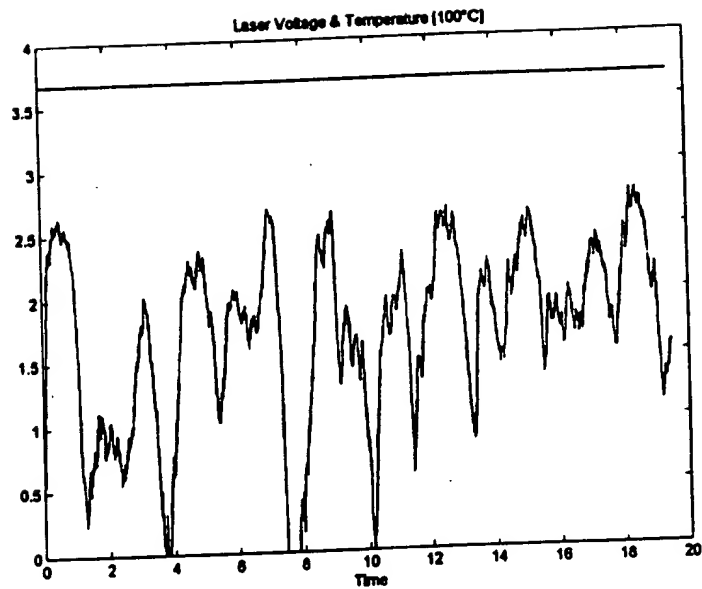


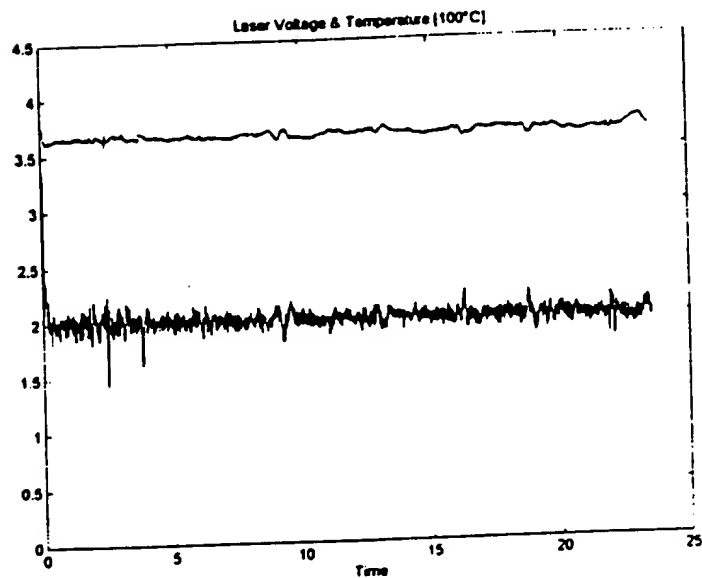
FIG. 4

TOP SECRET



Open Loop Feedback

FIG. 5A



Closed Loop Feedback

FIG. 5B

19

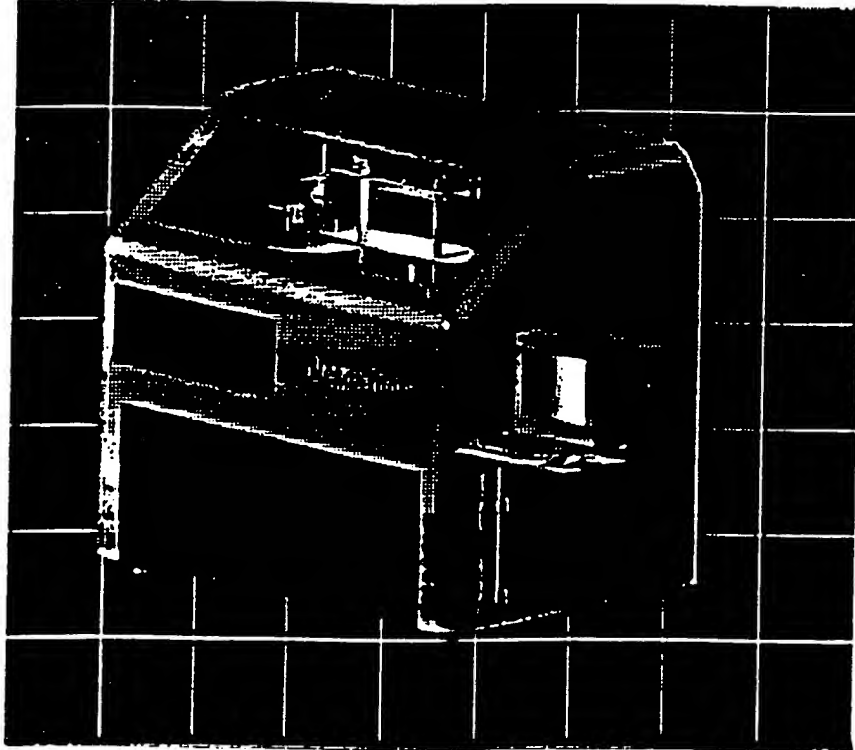


FIG. 6

09837265-041901

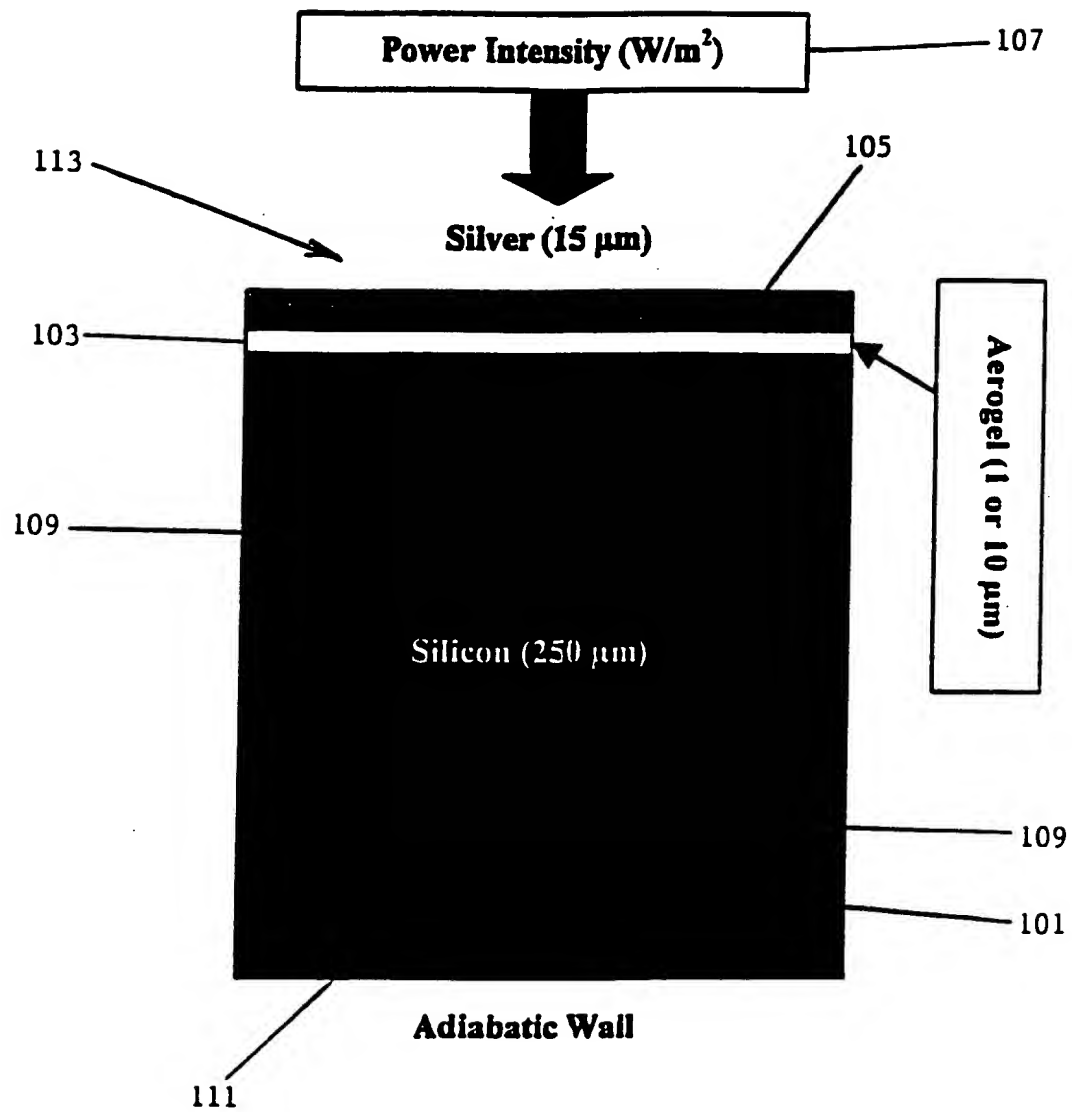


Fig. 7

TOP SECRET 53226300

# Distribution of Maximum Silver Temperature (Finer-Resolution Calculation)

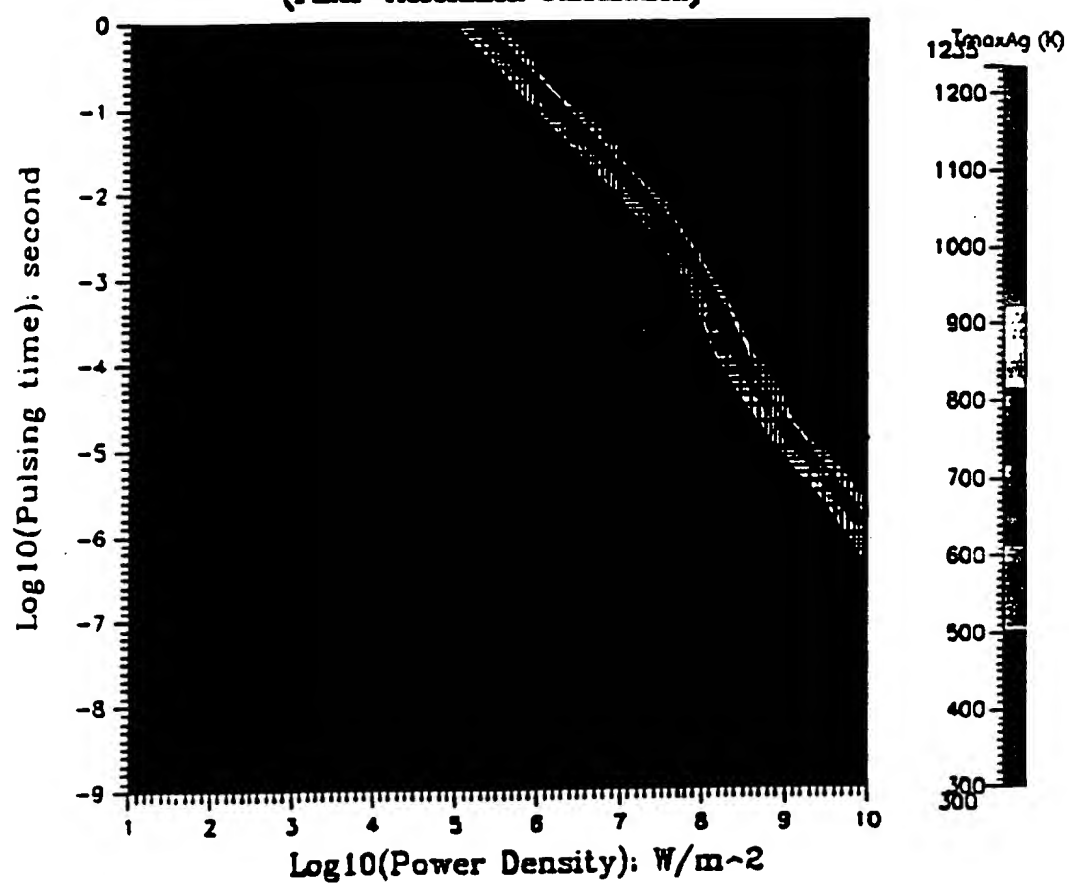


Fig. 8

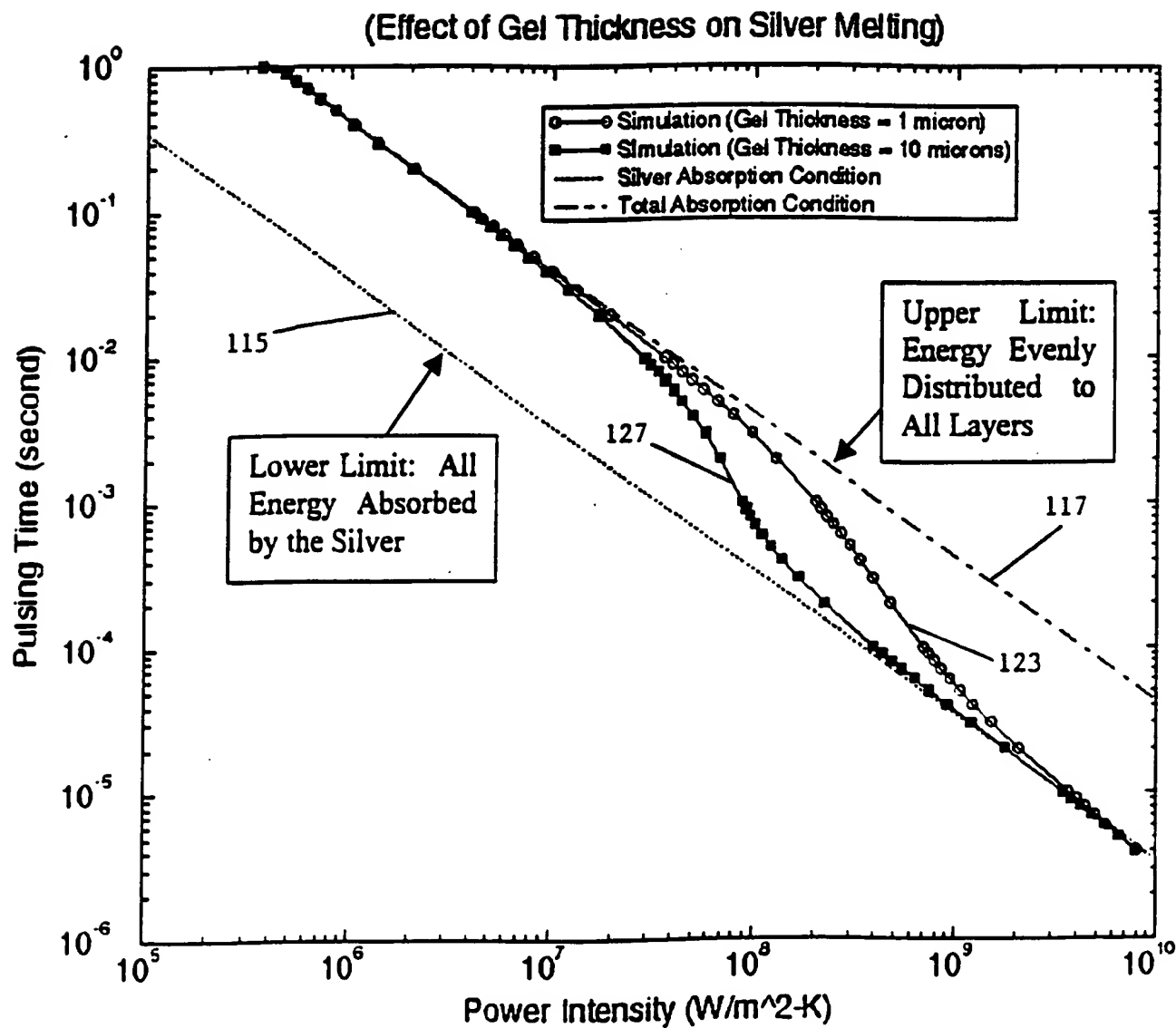


Fig. 9



(Thickness of Aerogel = 1 microns)

Y-axis: Pulsing Time (second) (log scale from  $10^{-6}$  to  $10^0$ )

X-axis: Power Density ( $\text{W/m}^2\text{-K}$ ) (log scale from  $10^5$  to  $10^{10}$ )

Legend:

- Silver Melting Temperature (solid line)
- Maximum Silicon Temperature = 400K (dotted line)

Annotations:

- 123 (point on Silver Melting Temperature curve)
- 121 (point on Maximum Silicon Temperature curve)
- Peak Silver Temperature Greater Than 1235 K (arrow pointing to the Silver Melting Temperature curve)
- Peak Silicon Temperature Less Than 400 K (arrow pointing to the Maximum Silicon Temperature curve)

**Fig. 10**

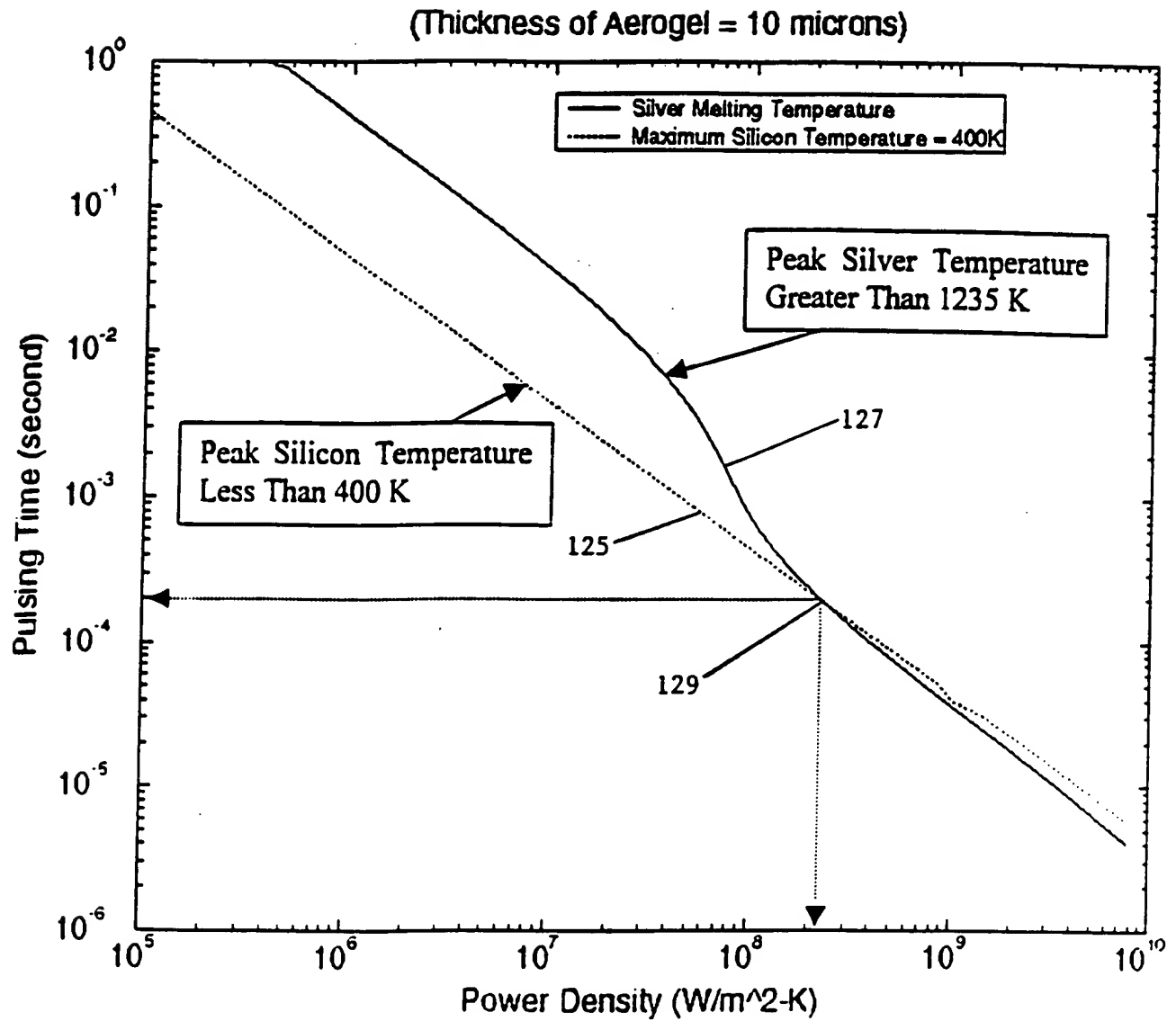
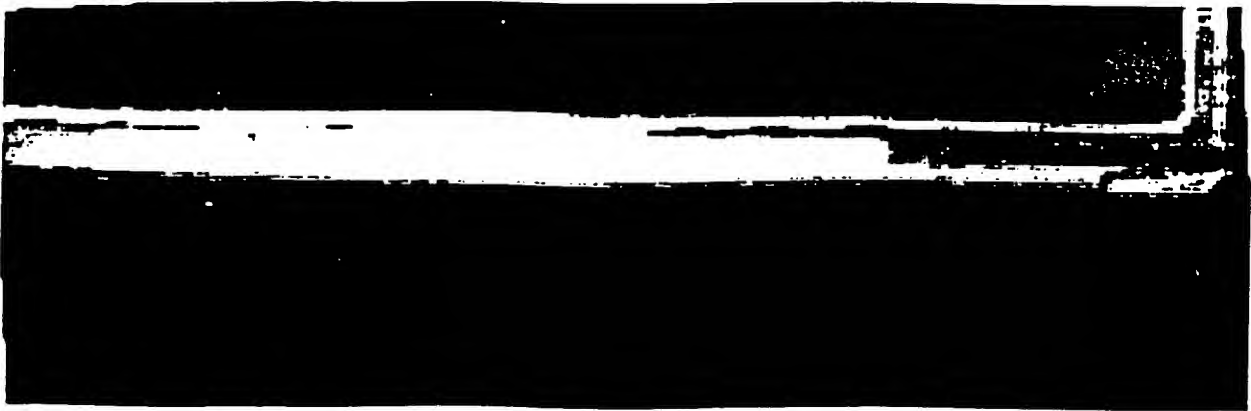


Fig. 11



Without Aerogel

Fig. 12A



With Aerogel

Fig. 12B

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